Amendments to the Specification:

Please add the following heading to page 1, line 1:

Background of the Invention

Please add the following heading to page 2, line 9:

Summary of the Invention

Please add the following heading to page 5, line 15:

Brief Description of the Drawings

Please add the following heading to page 6, line 1:

Detailed Description of the Preferred Embodiment(s)

Please amend page 1, starting at line 1 as follows:

The present invention relates in general to systems for the regulation and control of chemical processes which involve the production of gas, for example processes ~~of combustion~~ in cement furnaces.

Please the paragraphs beginning on page 2, line 9 as follows:

GB-A-1 445 061, US-A-4 336 722, DE 44 30 378 A1, CA-A1-2 196 846 and US-A-3 938 390 disclose systems for extracting a gaseous fluid to be analyzed from a process environment.

In particular, GB-A-1 445 061 discloses a system for extracting a gaseous fluid to be analyzed from a process environment, comprising

- a probe for extracting said gaseous fluid, comprising a first tubular element, which can be position within the interior of the process environment, the said first tubular element having at one end a gas aspiration opening and defining an internal cavity, and a second tubular element, the said second tubular element being operable to inject the said

gaseous fluid into the interior of the cavity towards the said aspiration opening of the first tubular element and from there again into the process environment,

- aspiration means aspirating the gaseous fluid from the process environment through the cavity of the said first tubular element of the probe,
- take-off means connected to the said aspiration means for taking-off a fraction of the said gaseous fluid, the said take-off means by further connected to analyzer means for analysis of the said gaseous fluid, and
- re-injection means for re-injection the said gaseous fluid into the process environment through the second tubular element.

The system of GB-A-1 445 061 solves the problem of preventing the clogging of the prove only in a limited way.

One object of the invention is that providing a ~~probe~~ system for ~~the extraction of gases~~ extracting a gaseous fluid to be analyzed from a process environment which is able to prevent or at least reduce the occurrence of clogging of the probe, that is to say to guarantee continuity of use without continual maintenance interventions (with improvements in the gas extraction system and continuity and reliability of the analysis.)

This object is achieved according to the invention by a ~~probe~~ system for extracting ~~of gases~~ a gaseous fluid to be analyzed from a process environment ~~having the characteristics defined in Claim 1~~.

~~Preferred embodiments for the probe are defined in the dependent claims~~.

Another object of the invention is ~~that of providing a system for the extraction of gases~~ a method for extracting and re-injecting a gaseous fluid from and to a process environment. ~~which reduces in the most complete manner the ingress of dust and condensate through the probe, as well as guaranteeing continuity and reliability of the analysis.~~

~~This object is achieved according to the invention by a system for extracting gases from a process environment, having the characteristics defined in Claim 11~~.

Please add the following paragraph on page 3, line 19:

The reliability and continuity of the system makes it possible to utilize its output for automatic furnace management (not having compressed air washing which gives rise to O2 peaks). The capacity of the compressor is high, therefore the response is faster than in usual systems, and possible micro-losses have no influence. Consequently a more reliable analysis is achieved.

Please add the following paragraph on page 4, line 24:

The probe is easy to install in a short time, not requiring a great deal of work for adaptation of the existing system to be able to connect it. Moreover, it does not require a great deal of care in research for the optimum position in the furnace (the minimum dust point etc.)

Please amend take out the paragraphs on page 5 beginning on line 5:

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Please amend the paragraphs beginning on page 7, line 27 as follows:

The coupling of the two chambers (gas and cooling, that is to say the second and third tube 2, 3, from the inside working outwardly), gives rise to an interspace IN, blind at the probe bottom (outer furnace side) and open at the head TS (inner furnace size) that is to say it is licked by the gas. This avoids the formation of condensation with the gas

aspiration tube 2 (second tube) and makes it possible for the gas withdrawn not to be excessively cooled. The gas is aspirated into the chamber CA constituted by the first and second tube 1, 2 and injected again into the interior of the furnace through of the concentric central tube (first tube 1) , by means of a compressor C. The furnace side end UG of the central tube is throttled so that the ejected gas is compressed. Preferably, this end has a nozzle. Alternatively, the same central tube 1 can be ~~designed to inject~~ realized as a capillary tube for injecting the gas towards the probe head TS ~~(for example it can be formed as a capillary tube)~~. In this way the gas acquires a certain pressure and kinetic energy, constituting a barrier against dust and effecting cleaning of the probe head TS. In substance the gas is aspirated through the piping 40 and returned to the furnace with an adequate pressure and velocity through the piping 50, by means of the compressor C. In the gas aspiration and delivery circuit 40, 50 (furnace - compressor C - furnace) there is fitted a branch 41 which delivers a small percentage of fluid to be analysed to traditional analysers ~~02 CO NOX~~ AG by means of a pump PM with a take off upstream of the compressor C. The high flow rate of the circulating fluid guarantees short response times which benefit the management of the furnace. Upstream of the analysers are disposed a regulator RF for the flow of gas to the analysers and a sensor P2g for control of the pressure of the gas to the analysers. These analysers are moreover protected by a filter F3G, which acts as an anti- acid/condensate. Downstream of the analysers is disposed a gas discharge SG exiting from the analysers.

Before reaching the compressor C and the pump PM the gas is suitably filtered by upstream filters FlG and F2G in the aspiration piping 40. The filter FlG is connected to a dust decanter D to reduce the possible dust present in the circuit. ~~The high flow rate of the circulating fluid guarantees short response times which benefit the management of the furnace~~.

Please amend the paragraphs beginning on page 11 starting at line 13 as follows:

In other words, with the compressor and the branching principle one obtains; dust-free and dried gas (by the barrier effect) and self-cleaning head without necessity for the

compressed air washing cycle (by means of a continuous cycle without interruption and alteration of the analysis gas.)

The strong point of this probe is the compressor central- tube which permits the gas to re-circulate to the furnace with a certain pressure and kinetic energy. Naturally, in place of the compressor it is possible to utilise another type of continuous cycle machine.

~~With the compressor and the branching principle one obtains; dust-free and dried gas (by the barrier effect) and self- cleaning head without the necessity for the compressed air washing cycle (by means of a continuous cycle without interruption and alteration of the analysis gas).~~

Please insert the attached Abstract page into the application as the last page thereof.